REMARKS

This responds to the Office Action mailed on July 28, 2003. No claims are amended, cancelled, or added. As a result, claims 1-26 remain pending in this patent application.

§102 Rejection of the Claims

Claims 1, 10, 11 and 17-26 were rejected under 35 U.S.C. § 102(b) for anticipation by Rozman et al. (U.S. Patent No. 5,438,502). Applicant respectfully traverses.

1. Regarding claims 1 and 11, the rejection states:

> Regarding claims 11 and 11 Rozman et al. disclose an over-load protection circuit for an engine-generator from damage (see fig. 2 and 3), the circuit comprises an engine (col. 3, lines 14-15), a generator (10) driven by the engine, the generator (10) having an output coupled to the load, the generator including a generator exciter (12) controlling a load signal using a signal (16) received at the exciter (12), a load power sensing circuit (comprising a load current sensor 40 and a load voltage sensor 42, and voltage estimator 45), including an input for coupling to a load and an output providing a load power signal measuring an indication of power delivered to the load (col. 3, lines 55-65), and a voltage regulator circuit (26), including an output configured for coupling to the generator exciter (12) (the output regulator 26 connected to the generator 12 via a feedback signal, see fig. 2), and an input coupled to the load sensor (45) to receive the sensed power indication (from the current and voltage sensors 40 and 42), the regulator (26) decreases a magnitude of the voltage delivered by the generator (10) to the load when the sensed load power indication reaches maximum level to prevent the power delivered from generator (10) to the load from exceeding a maximum load power value (col. 4, lines 7-15).

(Office Action ¶ 1.)

First, Applicant can find no disclosure in the cited portions of Rozman et al. of a generator exciter circuit, as recited in the present claims 1 and 11. The rejection has characterized the rectifier (12) of Rozman et al. as a generator exciter circuit. Applicant respectfully disagrees. As explained in the present patent application, by way of example, but not by way of limitation, "the generator exciter circuit . . . adjusts . . . a winding excitation signal provided to generator 125." This usage is clearly in accordance with the ordinary meaning of the term "generator exciter circuit." Applicant respectfully submits that the rejection's interpretation

of a rectifier as reading on a generator exciter circuit contravenes the ordinary meaning of that term.

Moreover, even if the rectifier (12) could somehow be interpreted as a generator exciter circuit, Applicant can find no disclosure in the cited portions of Rozman et al. of a voltage regulator circuit including an output configured for coupling to a control input of the alleged "generator exciter circuit." For example, Applicant can find no control input of the rectifier (12) shown in FIGS. 1 and 2 of Rozman et al.

Second, Applicant can find no disclosure in the cited portions of Rozman et al. of a load power sensing circuit, as recited in the present claims 1 and 11. The rejection has characterized Rozman et al.'s current sensor (40) as a "load current sensor," and its voltage sensor (42) as a "load voltage sensor." Applicant respectfully disagrees. FIG. 2 of Rozman et al. expressly discloses a load (22) at the AC output point-of-regulation (POR). (*See* Rozman et al. at column 3, line 31). Therefore, Rozman et al.'s current sensor (40) and its voltage sensor (42) do not sense their respective parameters at the load, but instead, these components sense their respective parameters on the DC link (16). Moreover, these components are used to merely provide an estimate of the actual output voltage of the system at the load. (*See* Rozman et al. at column 3, lines 56 – 58). Because the voltage sensor (42) is used to estimate the very quantity (i.e., output voltage) that the rejection alleges it actually senses, Applicant respectfully submits that such a reading of the Rozman et al. reference is improper. Furthermore, Applicant can find no disclosure in Rozman et al. of using the current sensor (40) and voltage sensor (42) to compute a load power, or to make any other power computation, as discussed below.

Third, Applicant respectfully disagrees with the rejection's characterization of the AC voltage sensor (26) of the Rozman et al. reference as a "voltage regulator," as recited in the present claims 1 and 11. Applicant can find no disclosure in the cited portion of Rozman et al. that indicates that the AC voltage sensor (26) actually regulates any voltage, rather than merely sensing a voltage.

Fourth, Applicant respectfully disagrees with the rejection's assertion that the current sensor (40) and the voltage sensor (42) are combined to provide a power indication. Instead, as clearly indicated in FIG. 3 of Rozman et al., a current parameter obtained from the current sensor (40) is converted into a voltage by current/voltage converter gain (50), and is subtracted from a

voltage parameter obtained from the voltage sensor (42), along with a reference voltage (54). (*See* Rozman et al. at column 4, lines 36 – 58.) Applicant can find no disclosure in the cited portions of Rozman et al. of obtaining any load power computation using the current sensor (40) and the voltage sensor (42). By contrast, the present claims 1 and 11 each recite a "load power sensing circuit."

In view of the above, Applicant respectfully requests withdrawal of these bases of rejection of claims 1 and 11.

2. Regarding claims 10 and 17, the rejection states:

> Regarding claims 10 and 17, Rozman et al. disclose the voltage regulator (26) includes a load voltage sensing circuit (42), including an input coupled to the load and providing an output indicating a load voltage (col. 3, lines 65-68), a voltage reference circuit (54, shown in fig. 3) coupled to the load sensing circuit (45) and providing a reference voltage, and the reference voltage (54) is constant when the load is below the threshold level and varies when the load is exceeding the maximum level (col. 4, lines 63-66).

(Office Action at page 3.) However, Applicant can find no disclosure in the cited portions of Rozman et al. of a load power sensing circuit, as incorporated into claims 10 and 17 by their respective dependencies on claims 1 and 11, for the reasons discussed above with respect to claims 1 and 11. Moreover, Applicant can find no disclosure in the cited portions of Rozman et al. of a voltage reference circuit including an input coupled to the load power sensing circuit output, as recited in claims 10 and 17. In fact, the voltage reference circuit (54) of Rozman et al. cited in the rejection apparently doesn't include any input at all, at least not as depicted in FIG. 3 of Rozman et al. Furthermore, Applicant can find no disclosure in the cited portions of Rozman et al. of the reference voltage being substantially constant when the measured load power indication is below the predetermined maximum value, and in which the reference voltage varies when the measured load power indication reaches or exceeds the predetermined maximum value, as recited in claims 10 and 17. Instead, the cited portion of Rozman et al. states:

> Likewise, the voltage reference 54 can be either set to a predetermined value or may be updated according to continuous or periodic measurement of the switching losses in the inverter.

(Rozman et al. at column 4, lines 63 – 66). Therefore, the Rozman et al. voltage reference (54) varies not based on measured power to the load, but instead, varies according to switching losses

in the inverter. Moreover, because of their dependency on claims 1 and 11, claims 10 and 17 include all the limitations of claims 1 and 11 and, therefore, Applicant respectfully submits these claims are also patentably distinct for the reasons discussed above with respect to claims 1 and 11. In sum, because all elements of claims 10 and 17 are not disclosed by Rozman et al., Applicant respectfully requests withdrawal of this basis of rejection of these claims.

3. Regarding claims 18 and 22, the rejection states:

> Regarding to claims 18, 22, Rozman et al. disclose a method for generating and delivering an AC power to a load, the method includes sensing a load power (45) delivered from a generator (10) to the load (fig. 2), determining whether the delivered power has reached a maximum load, and if the delivered power has reached a maximum load, then reducing a load voltage to clamp the power about the maximum value (load regulator 26) (col. 4, lines 7 – 15).

(Office Action at page 3.) However, as discussed above, Applicant can find no disclosure in the cited portions of Rozman et al. of sensing a load power, as recited or incorporated in claims 18 and 22. Instead, Rozman et al. apparently senses DC current and DC voltage at the inverter input to estimate an average output voltage for regulating the output voltage. (*See* Rozman et al. at column 3, line 55 through column 4 line 15). Similarly, Applicant can find no disclosure in the cited portions of Rozman et al. of determining whether the delivered load power has reached a maximum load power value, then decreasing a load voltage to clamp the load power about the maximum load power value (as recited in claim 18 and incorporated in claim 22). Instead, as discussed above, Rozman et al. apparently merely senses DC current and DC voltage at the inverter input to estimate an average output for regulating the output voltage. In sum, because Rozman et al. fails to disclose all elements of claims 18 and 22, Applicant respectfully requests withdrawal of these bases of rejection of these claims.

4. Regarding claim 19, the rejection states:

> Regarding to claim 19, Rozman et al. disclose determining whether the delivered power has reached a maximum load, and if the delivered power has reached a maximum load includes comparing the load power to a reference voltage (54) (shown in Fig. 3), computing a [difference] between the load power and the reference power (computing by integrator 74).

(Office Action at page 3.) However, Applicant can find no disclosure in the cited portions of Rozman et al. of comparing the load power to a reference power value, and of computing a

difference between the load power and the reference power value, as recited in claim 19. First, Applicant respectfully submits that Rozman et al. pertains to estimating a load voltage, not measuring a load power, as discussed above. (*See* Rozman et al. at column 3, line 55 through column 4, line 15). Moreover, Applicant respectfully submits that the rejection's statement about "comparing the load power to a reference voltage" doesn't make sense, because it does not involve comparing two like quantities (e.g., comparing voltage to voltage, or comparing power to power), but instead compares two unlike quantities (alleged power is compared to a voltage). Similarly, Applicant respectfully traverses the rejection's assertion about the integrator computing a difference between the load power and the reference power. Instead, the Rozman et al. reference states:

> A correction feedback loop is included in the voltage estimator 45 to cause the average voltage estimate signal to more closely match the actual average voltage produced by the inverter 18.

(Rozman et al. at column 5, lines 3-6.) Therefore, the feedback loop of Rozman et al. clearly pertains to a voltage comparison, instead of a power comparison, as recited in the present claim 19. Moreover, because of its dependency on claim 18, claim 19 includes all of the limitations recited in claim 18 and, therefore, is patentably distinct for the reasons discussed above with respect to claim 18. In sum, because Rozman et al. apparently fails to disclose all elements of claim 19, Applicant respectfully requests withdrawal of this basis of rejection of this claim.

5. Regarding claims 23 and 24, the rejection states:

> Regarding to claims 23 and 24, Rozman et al. disclose using a feedback loop to control the load voltage when the load power is below the threshold value and prevent the load from exceeding maximum value, and reducing the load voltage when the load power reached the maximum value (see fig. 2).

(Office Action at page 4.) However, Applicant can find no disclosure in the cited portions of Rozman et al. of using a load voltage feedback loop when the load power is below the maximum load power value and using a load power feedback loop to substantially prevent the load power from exceeding the maximum load power value, including coupling into the load voltage feedback control loop to reduce the load voltage when the load power reaches the maximum load power value, as recited in claims 23 and 24. As discussed above, Rozman et al. apparently senses DC current and DC voltage to estimate an AC output voltage, rather than sensing a load

power. Therefore, Rozman et al. similarly fails to compare a load power to a threshold power value, and fails to disclose separate voltage and power feedback control loops, as recited in claims 23 and 24. Accordingly, Applicant respectfully requests withdrawal of this basis of rejection of these claims.

6. Regarding claims 20 and 25, Applicant can find no disclosure in the cited portions of Rozman et al. of computing a proportional, integral, derivative (PID) control signal, as recited in these claims. Instead, Rozman et al. apparently merely computes an error signal. To the extent that the Examiner is relying on Official Notice to equate the error signal of Rozman et al. with a PID control signal, Applicant timely objects to the Examiner's reliance on Official Notice, and respectfully requests a reference to support such an assertion. (*See* M.P.E.P. § 2143). Accordingly, Applicant respectfully requests withdrawal of this basis of rejection of these claims.

7. Regarding claim 20, Applicant can find no disclosure in the cited portions of Rozman et al. of switching in a load power control feedback loop when the load power exceeds the reference power value, as recited in claim 20. As discussed above, Applicant can find no disclosure in the cited portions of Rozman et al. of sensing load power; instead, Rozman et al. apparently merely senses DC current and DC voltage at the inverter input to estimate an inverter output voltage to control the load voltage. Applicant can find no disclosure in Rozman et al. of using a load power control feedback loop; instead, Rozman et al. appears to implement a voltage feedback loop. (*See* Rozman et al. at column 4, lines 5 – 15). Accordingly, Applicant respectfully requests withdrawal of this basis of rejection of claim 20.

Regarding claim 25, Applicant can find no disclosure in the cited portions of Rozman et al. of generating a PID control signal based on a difference between the load voltage signal and a sum of the reference voltage and a signal based on a difference between a reference power and the load power, as recited in claim 25. Applicant respectfully submits that Rozman et al. fails to disclose a PID control signal, as discussed above. Moreover, Applicant can find no disclosure in Rozman et al. of sensing a load power, or comparing it to a reference power, as discussed above. Accordingly, Applicant respectfully requests withdrawal of this basis of rejection of claim 25.

Allowable Subject Matter

Claims 2-9 and 12-16 were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Nevertheless, because these claims incorporate all the limitations of the base claims from which they depend, Applicant respectfully submits that these claims are allowable in their present form for the reasons discussed above.

Information Disclosure Statement

On March 12, 2003, Applicant submitted an Information Disclosure Statement and PTO Form 1449, which included citation of the abstract of Quanfu Wei Chinese Patent No. 1049075. The PTO Form 1449 was returned without this reference being initialed by the Examiner as having been considered. Accordingly, Applicant respectfully requests that the Examiner consider this reference, and return a Form 1449 that is marked to indicate that this reference has been considered by the Examiner.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (612-373-6951) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743

Respectfully submitted,

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Date Sept. 12, 2003

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 12th day of September, 2003.

Patricia A. Hoffman _____

Name Signature